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Title:	Harnessing in vitro evolution to discover antibodies for therapeutic and diagnostic use
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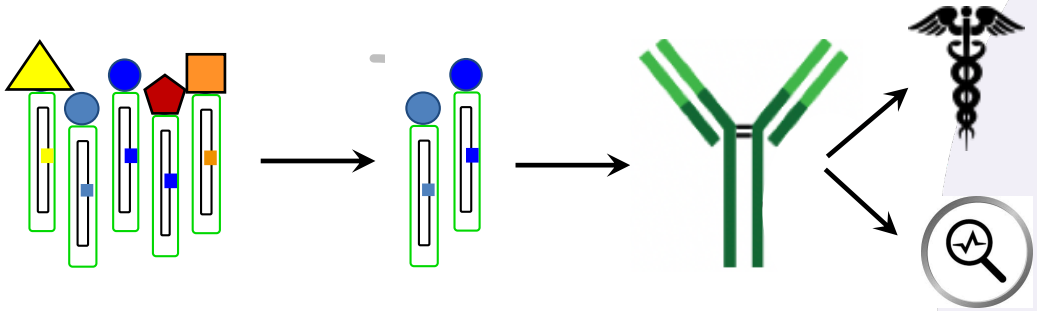
Harnessing in vitro evolution to discover antibodies for therapeutic and diagnostic use



Mietta Lillo B-10

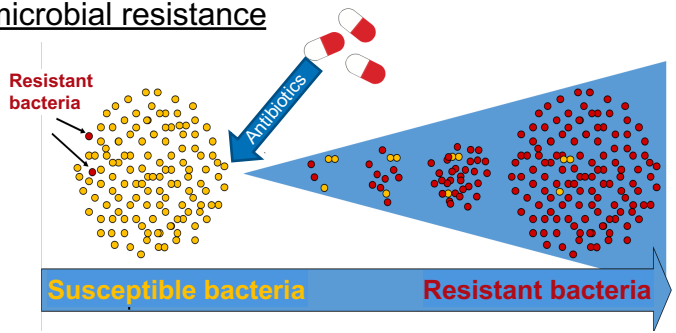
May 5th 2021

LAUR-

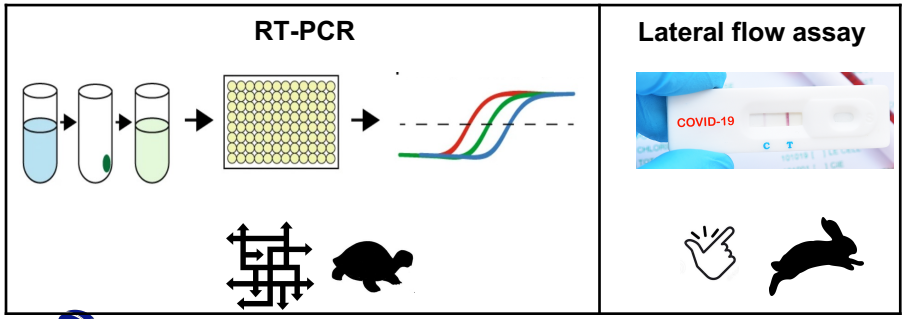
We can develop alternative antimicrobials and high-quality point of care diagnostics

The problems

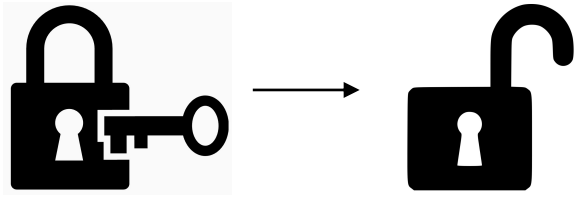
Antimicrobial resistance



High quality diagnostics are complex, expensive and slow

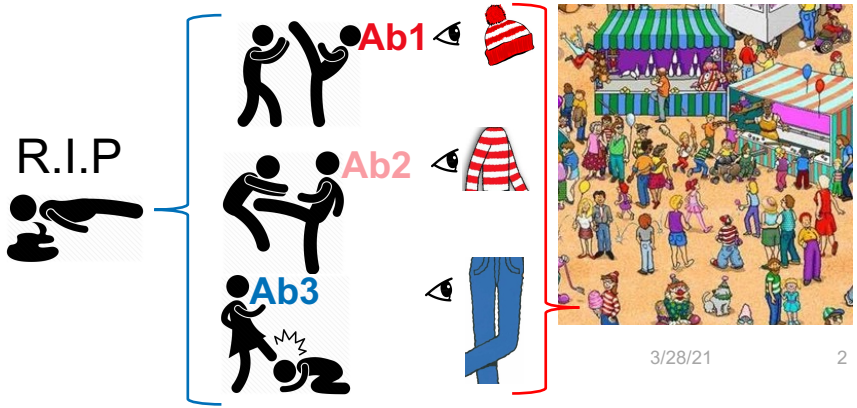


Our solution: highly specific affinity reagents



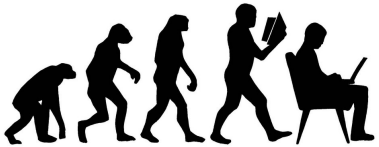
Human antibody *cocktails* can be effective

therapeutics and diagnostics



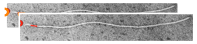
Our selection of affinity reagents is inspired by nature

Natural evolution



In vitro evolution

Display organisms



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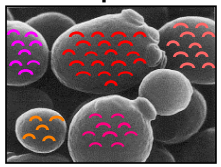
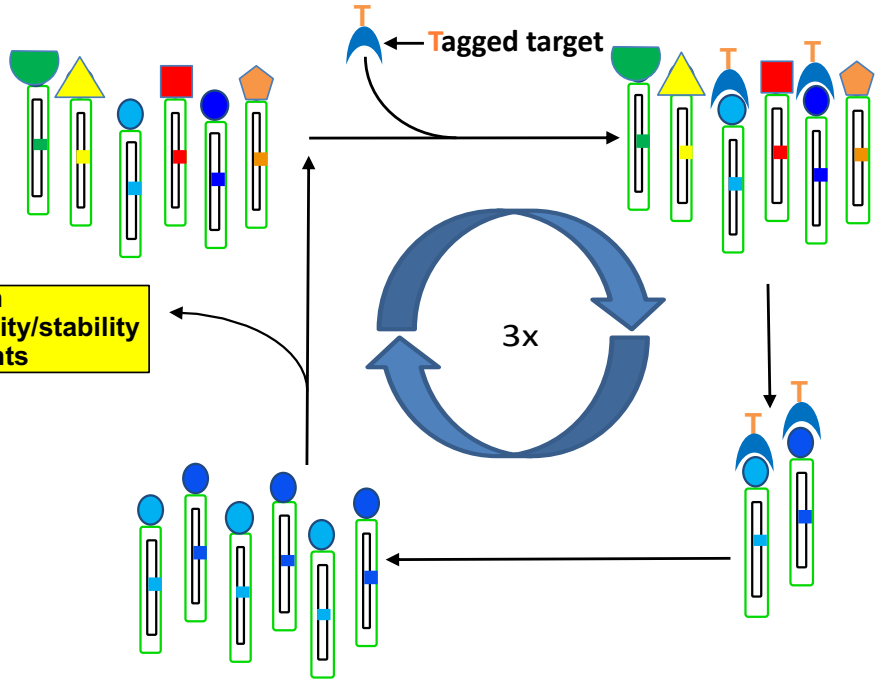
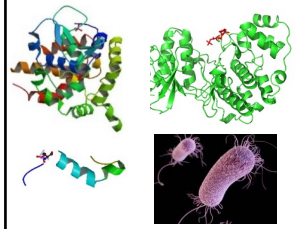




Selection targets

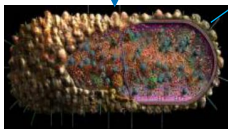


Features of selection process	Animal	Phage + Yeast
Rapid path to human antibodies	●	●
Real time monitoring of selection	●	●
Specificity tuning	●	●
Stability selection	●	●
Full length antibody	●	●
Multiple affinity reagent formats	●	●
Toxic molecules can be targeted	●	●

Recently selected antibody cocktails have enabled:

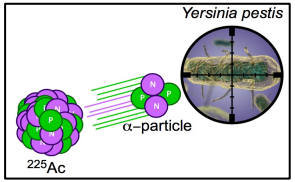
Selection target:

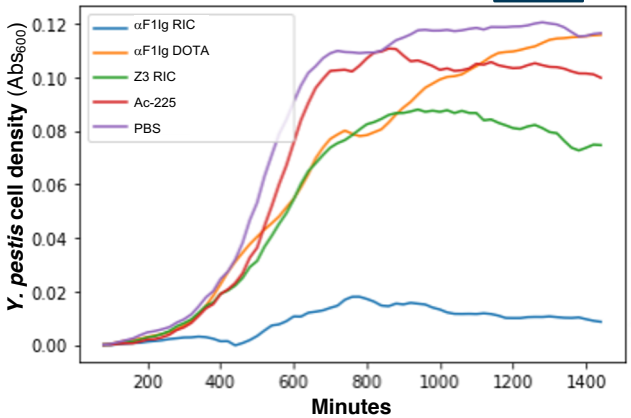
Spike protein

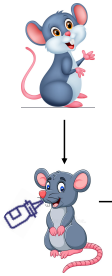


Y. pestis

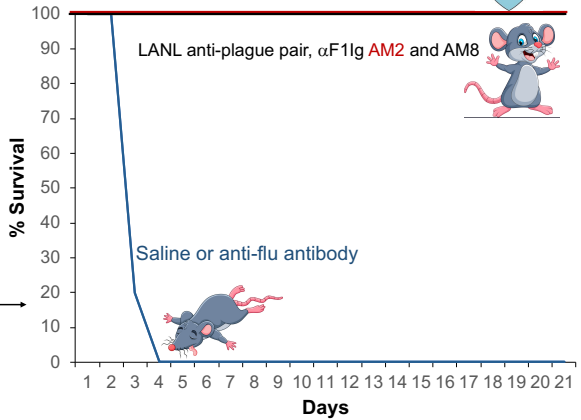
Y. pestis killing by selective delivery of radioactivity





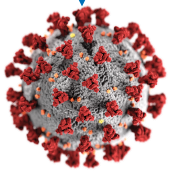


In vivo protection against plague



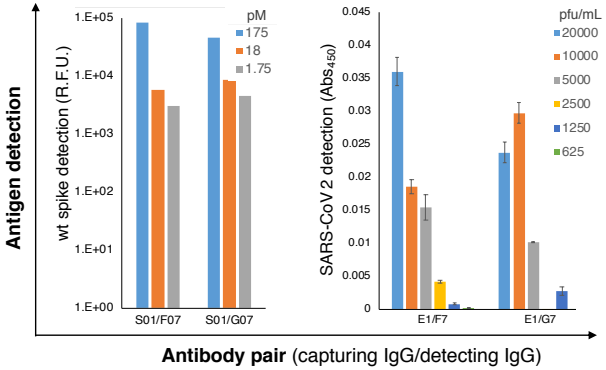
Selection target:

Spike protein

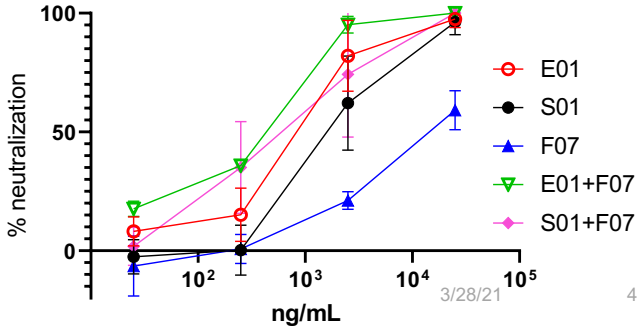


SARS-CoV 2

Sensitive and accurate detection of SARS-CoV 2 spike protein and whole virus

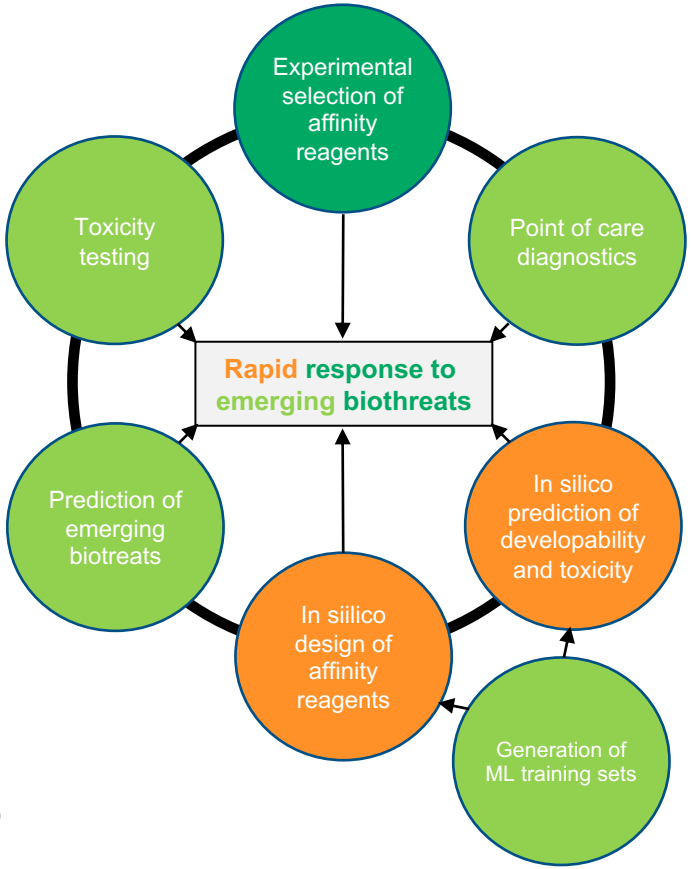


In vitro neutralization of viral infection



We are contributing to efficient response to biothreats

Current status and the future



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